

IN THE CLAIMS:

No changes have been made to the allowed claims 37 - 39 and 42-58 by this amendment. The allowed claims, claims 37 - 39 and 42-58, are presented in the form in which the applicants believe the claims were allowed.

1-36. (Cancelled)

37. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:

detecting with a first antenna electromagnetic signals comprising a noise signal and the desired signal;

detecting with a second antenna electromagnetic signals comprising substantially the noise signal; and

inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna to generate a summed signal;

compressing the summed signal using digital signal processing (DSP) to generate a compressed signal;

filtering the compressed signal using DSP to generate a filtered signal comprising substantially the desired signal; and

expanding the filtered signal using DSP.

38. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:

detecting with a first antenna electromagnetic signals comprising a noise signal and the desired signal;

detecting with a second antenna electromagnetic signals comprising substantially the noise signal; and

inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna to generate a summed signal;

filtering the summed signal using digital signal processing (DSP) to generate a filtered signal comprising substantially the desired signal; and

expanding the filtered signal using DSP.

39. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:

detecting with a first antenna electromagnetic signals comprising a noise signal and the desired signal;

detecting with a second antenna electromagnetic signals comprising substantially the noise signal; and

inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna to generate a summed signal;

compressing the summed signal using digital signal processing (DSP) to generate a compressed signal; and

filtering the compressed signal using DSP to generate a filtered signal comprising substantially the desired signal.

40. (Cancelled)

41. (Cancelled)

42. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:
- detecting an electromagnetic analog signal comprising a noise signal and the desired signal;
 - converting the electromagnetic analog signal into a digital signal;
 - compressing the digital signal using digital signal processing (DSP) to generate a compressed signal;
 - filtering the compressed signal using DSP to generate a filtered signal comprising substantially the desired signal;
 - expanding the filtered signal using DSP to generate an expanded digital signal;
 - and
 - converting the expanded digital signal into an analog form.
43. (Original) The method of Claim 42 wherein the desired signal is a known signal.
44. (Original) The method of Claim 42 wherein the desired signal is a signal on a metallic conductor.
45. (Previously Presented) The method of Claim 42 wherein the step of detecting the electromagnetic analog signal is performed by a first antenna, and wherein the method further comprises:
- detecting with a second antenna electromagnetic signals comprising substantially the noise signal; and
 - inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna for the step of compressing.

46. (Original) The method of Claim 42 further comprising the step of amplifying the compressed signal.

47. (Previously Presented) The method of Claim 42 further comprising the step of generating an audible sound indicative of the expanded digital signal.

48. (Previously Presented) The method of Claim 42 wherein the DSP includes a first filter, and wherein the method further comprises controlling whether the compressed signal is directed through the first filter or through a second filter connected in parallel with the first filter and an expander.

49. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:

detecting electromagnetic analog signals comprising a noise signal and the desired signal;

converting the electromagnetic analog signals into a digital signal;

compressing the digital signal using digital signal processing (DSP) to generate a compressed signal;

filtering the compressed signal using DSP to generate a filtered signal comprising substantially the desired signal.

50. (Original) The method of Claim 49 wherein the desired signal is a known signal.

51. (Original) The method of Claim 49 wherein the desired signal is a signal on a metallic conductor.

52. (Previously Presented) The method of Claim 49 wherein the step of detecting electromagnetic analog signals is performed by a first antenna, and wherein the method further comprises:

detecting with a second antenna electromagnetic analog signals comprising substantially the noise signal; and

inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna for the step of compressing.

53. (Previously Presented) The method of Claim 49 wherein the DSP includes a first filter, and wherein the method further comprises controlling whether the compressed signal is directed through the first filter or through a second filter connected in parallel with the first filter.

54. (Previously Presented) A method for detecting a desired signal in an electromagnetically noisy environment, the method comprising:

detecting electromagnetic analog signals comprising a noise signal and the desired signal;

converting the electromagnetic analog signals into a digital signal; filtering the digital signal using digital signal processing (DSP) to generate a filtered signal comprising substantially the desired signal; and

expanding the filtered signal using DSP.

55. (Original) The method of Claim 54 wherein the desired signal is a known signal.

56. (Original) The method of Claim 54 wherein the desired signal is a signal on a metallic conductor.

57. (Previously Presented) The method of Claim 54 wherein the step of detecting electromagnetic analog signals is performed by a first antenna, and wherein the method further comprises:

detecting with a second antenna electromagnetic signals comprising substantially the noise signal; and

inverting the noise signal detected by the second antenna, and summing the inverted noise signal to the desired signal detected by the first antenna for the step of filtering.

58. (Previously Presented) The method of Claim 54 wherein the DSP includes a first filter, and wherein the method further comprises controlling whether the compressed signal is directed through the first filter or through a second filter connected in parallel with the first filter.

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